

UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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ON TRACK INNOVATIONS LTD., :  
an Israeli company :  
Plaintiff and Counterclaim-Defendant, : Case No. 12-CV-2224-AJN-JCF  
v. :  
T-MOBILE USA, INC., :  
Defendant and Counterclaimant. :  
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**T-MOBILE USA, INC.’S OPENING BRIEF ON CLAIM CONSTRUCTION**

Pursuant to the Court’s scheduling order (Doc. 14), Defendant and Counterclaimant T-Mobile USA, Inc. (“T-Mobile”) hereby respectfully submits its opening brief addressing the proper construction of the patent claims identified in the Joint Claim Construction Statement (Doc. 19).

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## I. PRELIMINARY STATEMENT

On March 26, 2012, On Track Innovations Ltd. (“OTI”) brought the present patent suit against T-Mobile for alleged infringement of U.S. Patent No. 6,045,043 (the “‘043 patent”). (Doc. 1). T-Mobile denied the allegations and counterclaimed for noninfringement and invalidity of the ‘043 patent. (Doc. 13). Pursuant to the Court’s scheduling order, the parties exchanged proposed claim construction statements, met and conferred on the proper construction of the claim terms at issue, and submitted a Joint Claim Construction Statement to the Court (Doc. 19). T-Mobile now submits this Opening Brief and the Declaration of T-Mobile’s expert, Dr. Jack Winters, in support of its proposed claim constructions.<sup>1</sup> The issue before the Court is the proper construction of the disputed terms of the asserted claims.

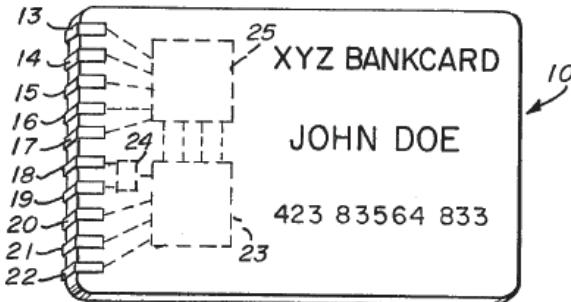
### A. Background

The ‘043 patent (Ex. B) relates to so-called smart cards, which are credit card-sized electronic data storage cards generally used for commercial transactions. Smart cards, initially developed in the 1960’s, were intended to replace credit cards themselves because the electronic storage of data was considered to be superior to the magnetic stripe on the credit card. (Ex. C, excerpt from W. Rankl and W. Effing, Smart Card Handbook, John Wiley & Sons, 1997, at 3; Winters Decl. ¶10; Ex. D, excerpt from OTI Annual Report (Form 20-F) (March 31, 2010) at 21).

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<sup>1</sup> A copy of all cited exhibits are attached as Exhibits A through Q to the Declaration of Jack H. Winters, Ph.D., T-Mobile’s expert witness, sworn to on December 20, 2012 and submitted herewith (“Winters Decl.”) All references to “Ex.” herein refer to exhibits attached to the Winters Decl.

For example, an early patent issued in 1976 discloses a semiconductor-based card with exposed conductors or contacts on the edge of the card (elements 13-22) for transmitting data stored in semiconductor devices 23 and 25 on the card to an external reader, as shown below:



(See Ex. E, U.S. Pat. No. 3,934,122, Fig. 2; Col. 2, ll. 41-48). Because the number, shape, size and location of the exposed contacts could vary from manufacturer to manufacturer, and in order to facilitate widespread use of such contact cards, the International Standards Organization (“ISO”) issued ISO 7816-2 in the 1980s to standardize the physical layout of the exposed contacts for smart cards and to promote interoperability between cards and readers designed by different companies. (Ex. C at 21). ISO 7816 defines, *inter alia*, the shape and dimensions of a contact card, as well as the positions and shape of the exposed contacts on the card. (Ex. C at 21-22; Winters Decl. ¶¶11, 12).

A later patent, issued in 1989, discloses a smart card with exposed contacts referred to as “external card contacts” (elements 31-38 described as conforming with the ISO standard), is depicted in the below figure:

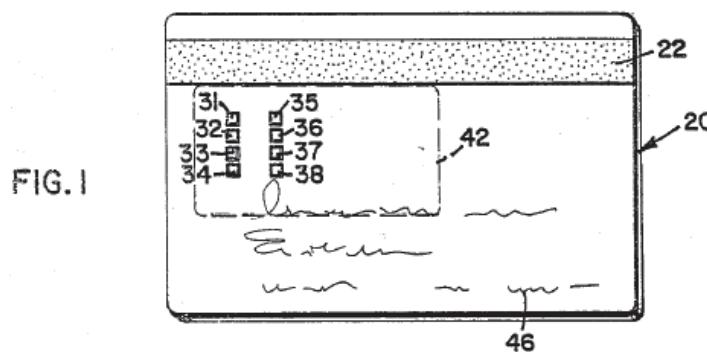
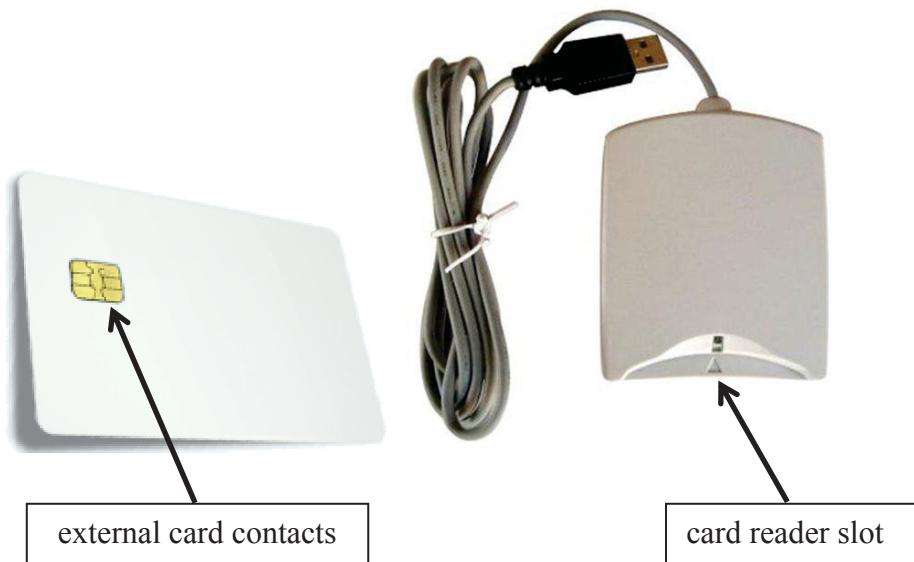


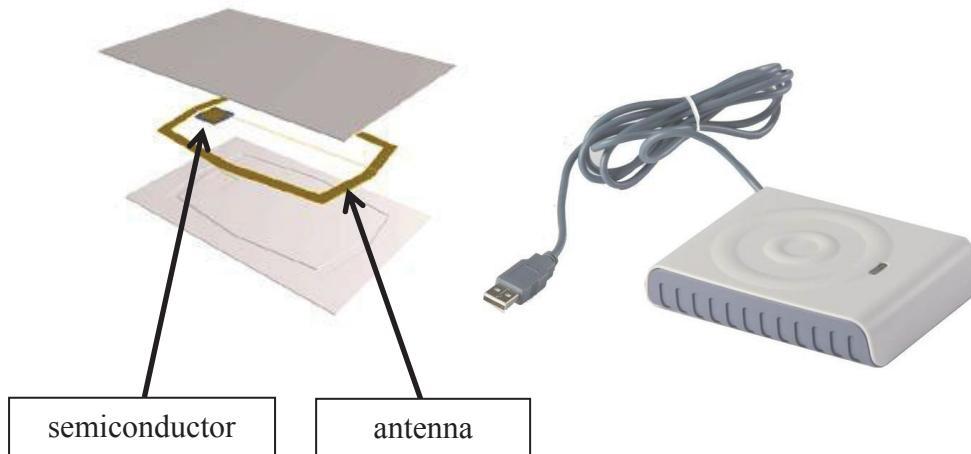
FIG. 1

(Ex. F, U.S. Pat. No. 4,874,935, Fig. 1; Col. 3, ll. 52-57). Such cards were also referred to in the industry as “contact cards,” which the cardholder used by inserting the card into a slot in a card reader having its own corresponding contacts that aligned with the exposed contacts of the contact card to transfer data. (Ex. D at 22; Winters Decl. ¶¶13, 14). Examples of a contact card with ISO 7816 contacts and a reader are shown below:

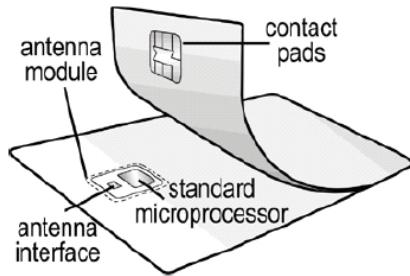


Although the initial purpose of contact-type smart cards was to replace the unreliable magnetic stripe-type credit cards, it was found that the contact cards were also unreliable because the readers often did not make good contact with the exposed contacts, and the exposed contacts were susceptible to wear from repeated use. (Winters Decl. ¶15).

To overcome those disadvantages, contactless smart cards were developed in the 1980s to allow for wireless transmission of data between the card and a reader. (See, e.g., Ex. G, U.S. Pat. No. 5,272,596). The contactless cards had the same credit card shape, but had no exposed contacts. Instead, the contactless card had a semiconductor device connected to an antenna that could communicate wirelessly with a reader and without making physical electrical contact. (Ex. D at 22; Winters Decl. ¶16). An example of a contactless card (in exploded view) and a reader are shown below:



Soon after, smart card makers got the idea to provide a smart card that was **both** a contact card and a contactless card, what is referred to in the field as a hybrid card. One hybrid card utilized two microprocessors: one microprocessor for the non-contact data transfer and another microprocessor for the contact data transfer. (Ex. H, U.S. Pat. No. 5,847,372; Winters Decl. ¶¶17, 18). Another hybrid card, for example, is shown in U.S. Pat. No. 5,206,495 (Ex. I, the “Kreft ‘495 patent”), which issued in 1993 and is directed to a smart card that can be used with either a contact card reader or a contactless card reader with a single microprocessor. Shown below is a hybrid smart card having both capabilities:



(Ex. D at 26; Winters Decl. ¶19).

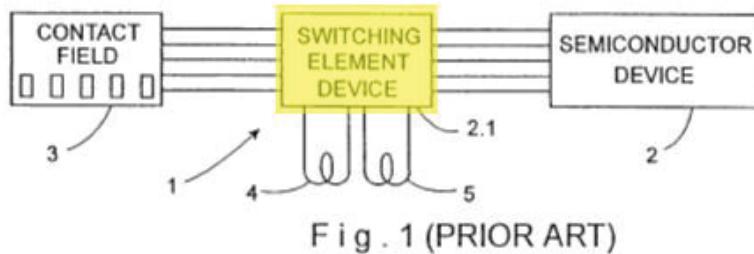
That was the state of the art at the time of the filing of the ‘043 patent application, and the ‘043 patent specification makes clear that “[b]oth ‘contact’ and ‘contactless’ devices are known per se.” (Ex. B, ‘043 patent, Col. 1, ll. 10-11). As will be shown, the ‘043 patent is directed to a purported incremental improvement to a known hybrid smart card, the smart card disclosed in the Kreft ‘495 patent. (Winters Decl. ¶20).

#### **B. The ‘043 Patent**

The application that ultimately issued as the ‘043 patent was filed on December 30, 1997 and claimed priority to an Israeli application filed on December 31, 1996. (Ex. B, ‘043 patent, front page). As discussed below, the Israeli application was filed in English. (Ex. J, Israeli Application). The U.S. application for the ‘043 patent included 27 claims, with a single independent claim, claim 1. (Ex. K, ‘043 patent application at 25).

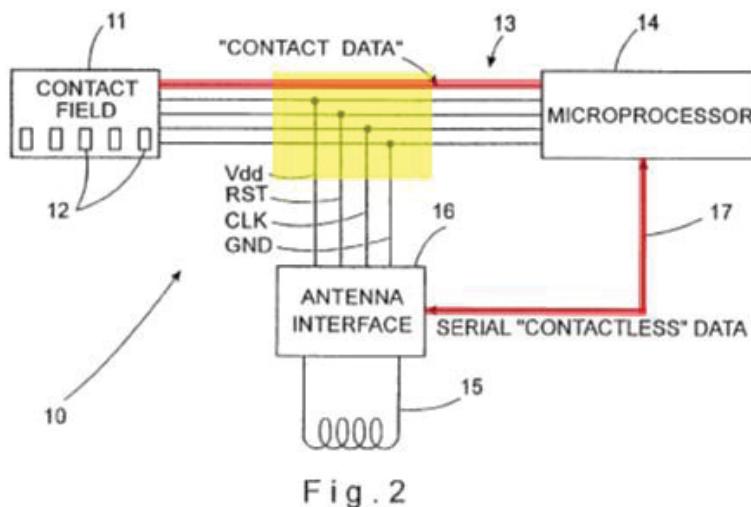
The “Background of the Invention” section of the U.S. application, and the ‘043 patent issuing therefrom, discuss the Kreft ‘495 patent and its alleged shortcomings, which was the use of a “switching element” to alternate between transmitting data between the contact mode and the contactless mode. (Ex. B, ‘043 patent, Col. 1, l. 25 – Col. 2, l. 11). In fact, Figure 1 of the ‘043 patent is a copy of Figure 2 of the Kreft ‘495 patent and was the starting point for the alleged “improvement” claimed by the applicants for the ‘043 patent. (Ex. B, ‘043 patent, Fig. 1;

Ex. I, Kreft '495, Fig. 2). Figure 1 from the '043 patent is reproduced below with the “switching element” highlighted:



*1. The '043 Patent Explains The Improvement Over Kreft '495 Is Elimination Of A Switching Element And Addition Of Permanent Connections To The Semiconductor Device*

As explained in the '043 patent specification, the purported “improvement” over the Kreft '495 patent was the elimination of the switching element and the use of two separate inputs “permanently connected” to the semiconductor device which is commonly a microprocessor. (Ex. B, '043 patent, Col. 4, ll. 2-11; Winters Decl. ¶22). Figure 2 shows “the data transaction card according to the invention” (Ex. B, '043 patent, Col. 3, ll. 19-20) with the two inputs to the microprocessor and location of the eliminated switching element highlighted:



(Ex. B, ‘043 patent, Fig. 2; Col. 4, ll. 2-11) (“It is thus to be noted that the contact field 11 is permanently connected to the microprocessor 14 as distinct from the prior art configuration described above with reference to FIG. 1 wherein the contact field 3 is connected to the semiconductor device 2 only when switched thereto by the switching element device 2.1.”); (Winters Decl. ¶23).

2. *The Prosecution History Also Emphasizes Elimination  
Of A Switching Element And Addition Of Permanent Connections  
To The Semiconductor Device*

During prosecution of the application for the ‘043 patent, applicants relied on that incremental improvement over the prior art to obtain issuance of the patent. In a first Office Action dated June 25, 1999, the Patent Office Examiner rejected the claims over a different patent to Kreft, U.S. Patent 5,773,812 (Ex. M, the “Kreft ‘812 patent”), also an improvement over the Kreft ‘495 patent and also disclosing a smart card having contact and contactless modes of operation. (Ex. L, Office Action). In response to that rejection, the applicants, in an amendment filed on September 22, 1999, amended claim 1 and made certain arguments to distinguish the claims over the prior art Kreft ‘812 patent. (Ex. N, Amendment).

In the remarks accompanying the amendment, applicants noted that Kreft ‘812 on which the Examiner had relied had the same switching element as the already-cited Kreft ‘495 patent. Applicants argued that the issue “fundamental to an understanding of the [‘043 patent] invention” was the contact field included contacts “fixedly” (*i.e.*, permanently) connected to the semiconductor device, and that omitting the switching element was the “inventiveness of the present invention”:

the invention as claimed [in the ‘043 application] resided not in the mere collocation of common components which are admittedly to be found in all smart cards having both contact and contactless

interfaces, but rather in the fact that in the invention, no switching element is required for selecting whether contact or contactless modes of operation are required. This distinction, which is fundamental to an understanding of the invention, is expressed by the statement that the contact field includes contacts *fixedly* connected to the semiconductor device during both modes, but transmit data only in contact mode.

\* \* \*

But the inventiveness of the present invention resides in that no separate switching is provided.

(Ex. N, Amendment at 2-3) (all emphasis in original); (Winters Decl. ¶¶24, 25). Thereafter, the claims were allowed by the Examiner and the '043 patent issued on April 4, 2000.

Having relied on the prior art to explain and differentiate the technology at issue, the disputed terms should also be construed in accordance with the well-understood meaning of those terms, as used in the prior art. (Winters Decl. ¶26).

## II. LEGAL STANDARD

The meaning of a patent and the terms of art within its claims are questions of law exclusively for the Court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996). The meaning of the claim language is determined by construing it through the eyes of one of ordinary skill in the art at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005). Claim language, including disputed terms, should be construed in the context of the claims as a whole. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1348 (Fed. Cir. 2005) (citation omitted). In that context, every word of a claim has meaning. See, e.g., *Unique Concepts, Inc. v. Brown*, 939 F.2d 1558, 1562 (Fed. Cir. 1991) (“All the limitations of a claim must be considered meaningful.”) The claim language, however, does not stand alone.

The Court should also consider intrinsic evidence, *i.e.*, the patent's specification and prosecution history<sup>2</sup>, when construing claim terms. *Markman*, 52 F.3d at 979-80. The specification "is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics*, 90 F.3d at 1582. The specification, including the written description and drawings, should be consulted to determine if the patentee has specially defined the term or otherwise limited the scope of the claim. *Phillips*, 415 F.3d at 1316. The prosecution history is also relevant to the claim construction process because it demonstrates how the applicant and the patent office understood the invention, and may contain representations made by the applicant regarding the scope of the invention. *Vitronics*, 90 F.3d at 1582-83. "[P]rior art cited in a patent or cited in the prosecution history of the patent constitutes intrinsic evidence." *V-Formation, Inc. v. Benetton Group SpA*, 401 F.3d 1307, 1311 (Fed. Cir. 2005) (citations omitted).

Beyond the intrinsic evidence, extrinsic evidence such as dictionaries (including technical dictionaries), learned treatises, and expert testimony may be used "as long as those [extrinsic] sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence." *Phillips*, 415 F.3d at 1324. "[E]xpert testimony can be useful to a court for a variety of purposes, such as to provide background on the technology at issue, . . . or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field." *Phillips*, 415 F.3d at 1318.

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<sup>2</sup> The prosecution history contains the complete record of all the proceedings before the U.S. Patent and Trademark Office ("U.S.P.T.O."), including any express representations made by the applicant regarding the scope of the claims. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The prosecution history might be analogized to the course of conduct between parties in contract interpretation, or to the legislative history of a statute in statutory interpretation. *Markman*, 52 F.3d at 984-88.

### III. ARGUMENT

There are five disputed claim terms submitted for construction by the Court. All of the claim terms appear in the independent claim 1, reproduced below with disputed terms underlined for convenience:

1. A data transaction card having contact and contactless modes of operation, comprising:
  - a semiconductor device for operating in said contact and contactless modes in accordance with a respective contact or contactless data communications protocol,
  - a contact field including contacts fixedly connected to the semiconductor device during both said contact and contactless modes, and allowing data transmission between the contacts and the semiconductor device in accordance with said contact data communications protocol only during said contact mode,
  - an antenna coil for allowing contactless data transmission between the antenna coil and the semiconductor device, in accordance with said contactless data communications protocol, and
  - an antenna interface coupled to the antenna coil, to the semiconductor device and to at least some of the contacts in the contact field and being responsive to an electromagnetic field across the coil for effecting said contactless data transmission.

(Ex. B, '043 patent, claim 1) (disputed terms underlined).

#### A. “A . . . card having contact and contactless modes of operation”

Claim Language	OTI's Proposed Construction	T-Mobile's Proposed Construction
A . . . card having contact and contactless modes of operation	<p>The preamble is not a limitation.</p> <p><i>If the preamble is a limitation, it should be construed as follows:</i></p> <p>a device, which may be a standalone module or integrated with other hardware which may or may not be portable, that allows communication in contact and contactless modes of operation.</p>	<p>The preamble is a limitation and should be construed as follows:</p> <p>a card has a mode of operation wherein electrical contacts on the card directly and electrically contact electrical contacts of a card reader to effect data communication, and the card has a mode of operation wherein an antenna in the card effects contactless data communication with a remote reader.</p>

1. *The Preamble Is A Limitation*

The Federal Circuit recognizes that where “the claim drafter ‘chooses to use *both* the preamble and the body to define the subject matter of the claimed invention, the invention so defined, and not some other, is the one the patent protects.’” *Bicon, Inc. v. The Straumann Co.*, 441 F.3d 945, 952 (Fed. Cir. 2006) (citing *Bell Communications Research, Inc. v. Vitalink Communications Corp.*, 55 F.3d 615, 620 (Fed. Cir. 1995)) (emphasis in original).

The test is whether the preamble “recites essential structure or steps, or if it is necessary to give life, meaning, and vitality to the claim.” *In re Cruciferous Sprout Litigation*, 301 F.3d 1343, 1347 (Fed. Cir. 2002) (citations omitted).

a) *The Preamble Provides Antecedence And Is Therefore A Limitation*

If “the limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention.” *Highmark, Inc. v. Allcare Health Mgmt. Sys., Inc.*, 687 F.3d 1300, 1311 (Fed. Cir. Aug. 7, 2012) (internal quotation omitted); *Bicon*, 441 F.3d at 952.

In this case, the preamble does provide antecedent basis for the “contact and contactless modes of operation.” Specifically, claim 1 recites two elements that require antecedence from the preamble: “a semiconductor device for operating in said contact and contactless modes” and “a contact field including contacts fixedly connected to the semiconductor device during both said contact and contactless modes”. (Ex. B, ‘043 patent, claim 1). The word “said” in both phrases refers to the antecedent recitation of the contact and contactless modes of operation of the card in the preamble. *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1343 (Fed. Cir. 2008) (“In grammatical terms, the instances of ‘said []’ in the claim are anaphoric phrases, referring to the initial antecedent phrase.”)

Without that antecedence, the claim would be meaningless, because the preamble defines the **card** as having the contact and contactless modes of operation. Thus, without the preamble to provide antecedent basis, the claim does not recite the complete invention. *Bicon*, 441 F.3d at 953 (“the claim does not recite the complete invention, but refers back to the features of the abutment described in the preamble, so that the references to the abutment in the body of the claim derive their antecedent basis from the preamble.”); *Highmark*, 687 F.3d at 1311-12 (“recitation of ‘said system’ in elements (e) and (g) can only derive its antecedent basis from . . . the preamble.”)

Should the Court agree that the preamble is indeed a limitation, then two disputed terms in the preamble should be construed, and T-Mobile’s proposed constructions are discussed below.

2. *The Term “Card” Carries Its Ordinary Meaning, Which Has Been Construed By The Federal Circuit*

The parties do not dispute that the term “card” should be construed with its ordinary meaning. *Vitronics*, 90 F.3d at 1582 (“words in a claim are generally given their ordinary and customary meaning”). However, as is apparent from the Joint Claim Construction Statement, the parties differ on the ordinary meaning of the term. Federal Circuit precedent, therefore, requires that the Court construe the term. *O2 Micro Int’l Ltd. V. Beyond Innovation Tech. Co., Ltd.*, 521 F. 3d 1351, 1361 (Fed. Cir. 2008) (“In this case, the ‘ordinary’ meaning of a term does not resolve the parties’ dispute, and claim construction requires the court to determine what claim scope is appropriate in the context of the [patent].”)

The Federal Circuit has held that the ordinary use of the term “card” for a similar electronic card is a “flat rectangular piece of stiff material.” *E-Pass Techs., Inc. v. 3Com Corp.*,

473 F.3d 1213, 1219 (Fed. Cir. 2007) (“*E-Pass II*”). That definition is based on several general purpose dictionaries, and applied in *E-Pass* because the patent specification did “not provide a definition of ‘card’ at variance with the ordinary dictionary definition.” *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1369 (Fed. Cir. 2003) (“*E-Pass I*”).

Likewise, the ‘043 patent does not change the ordinary meaning of “card,” and the term should be construed in accordance with the Federal Circuit holding in *E-Pass*. (Winters Decl. ¶28).

a) Applicants Surrendered Claim Scope  
During Prosecution And Limited Claim 1 To “Card”

When claim 1 was originally filed, it recited “A data transaction **device** having. . . .” (Ex. K, ‘043 application at 25) (emphasis added). In the September 22, 1999 Amendment, applicants changed the preamble to recite “A data transaction **card** having. . . .” (Ex. N, Amendment at 1) (emphasis added).

“When a patent drafter discloses but declines to claim subject matter. . . this action dedicates that unclaimed subject matter to the public.” *Johnson & Johnston Assocs. Inc. v. R.E. Service Co., Inc.*, 285 F.3d 1046, 1054 (Fed. Cir. 2002) (en banc). Although not absolute, the rule applies if the specification disclosure is of “such specificity that one of ordinary skill in the art could identify the subject matter that has been disclosed and not claimed.” *PSC Comp. Prods., Inc. v. Foxconn Int’l, Inc.*, 355 F.3d 1353, 1360 (Fed. Cir. 2004).

The ‘043 patent specification makes clear that “device” carries a broader scope than “card”:

“It will further be understood that whilst the invention has been described with particular reference to a data transaction device in the form of a card, any other suitable device is contemplated within the framework of the invention as defined in the appended claims.

Likewise, such a device need not be a standalone module but may, if desired, be integrated with other hardware which may or may not be portable.”

(Ex. B, ‘043 patent, Col. 13, ll. 30-37) (emphasis added).

When an amendment changes the scope of a claim so as to limit it to a specific embodiment out of a broader range of disclosed embodiments, the broader range is dedicated to the public. *Johnson & Johnston*, 285 F.3d at 1055 (use of alternative metals were dedicated to the public where the specification disclosed “other metals, such as stainless steel or nickel alloys” but only “aluminum” was claimed); *PSC Comp.*, 355 F.3d at 1360 (use of plastic straps deemed dedicated to the public where specification disclosed but then claimed only “metal straps”).

By changing claim 1 during prosecution to recite “card,” applicants disavowed the broader claim scope (“device”) in favor of a narrower claim scope. Although applicants did not provide clear reasoning for the change to the claim, Federal Circuit precedent mandates that the claim covers only the narrower scope. *Zircon Corp. v. Stanley Black & Decker, Inc.*, 452 Fed. App’x 966, 978 (Fed. Cir. 2011) (where applicants knew how to broadly claim subject matter but amended the claim to cover a narrower scope – even when the basis for the amendment is unclear – that unclaimed subject matter is disavowed).

b)      The Prosecution History Also Points To An Ordinary Use Of The Term “Card”

The prosecution history reflects that applicants intended to narrow the claims to a “card” by reason of an amendment. During prosecution, applicants argued that the claimed *card* distinguished over the prior art. *See* Ex. N, Amendment at 2-4 (“the invention as claimed resides not in the mere collocation of common components which are admittedly found in all smart cards having both contact and contactless interfaces. . . .;” “One of the most attractive features of

the present invention is that . . . the same smart card [can] be used for different applications.”) (all emphasis in original). Thus, it is apparent, that the term “card” means just that – “card”. (Winters Decl. ¶34).

3. *Contact And Contactless Modes Of Operation: Refers To The Card*

The claim language “A . . . card having contact and contactless modes of operation” establishes that it is the card that has two modes of operation: a contact mode and a contactless mode. This construction is evidenced by the intrinsic evidence in the patent specification, which defines each of those two modes.

The contact mode of operation is defined as requiring the exposed electrical contacts on the card to make electrical contact with a card reader before transmitting data. (Ex. B, ‘043 patent, Col. 1, ll. 37-44) (“In the case where ‘contact’ data transmission is required, there is provided a so-called ‘contact field’ having a plurality of contacts. . . . Data transmission with an external reader is then effected by inserting the card into a suitable reader having spring-loaded contacts which bear on respective contacts in the contact field of the chip card.”) This is a conventional definition of the term “contact mode of operation” for a smart card. (Winters Decl. ¶31).

Likewise, the specification defines the contactless mode of operation as requiring an antenna inside the card to transmit data to a remote reader: “when contactless data transmission is required, a coil antenna in the chip card is adapted to receive data from and transmit to a reading device having a similar antenna.” (Ex. B, ‘043 patent, Col. 1, ll.45-48) This is a conventional definition of a “contactless mode of operation” for a smart card. (Winters Decl. ¶32).

The specification also explains that “the provision of both contact and contactless modes of data transfer increases the card’s versatility.” (Ex. B, ‘043 patent, Col. 2, ll. 12-18). That versatility allows the card to be either inserted into a reader, or used wirelessly with a reader. (Winters Decl. ¶34).

Other portions of the specification use similar language to describe the two modes of operation of the card:

- “It is an object of the invention to provide a data transaction card having contact and contactless modes of operation. . . .” (Ex. B, ‘043 patent, Col. 2, ll. 25-27) (emphasis added).
- “In accordance with a broad aspect of the invention there is provided a data transaction card having contact and contactless modes of operation.” (Ex. B, ‘043 patent, Col. 2, ll. 34-36) (emphasis added).

(Winters Decl. ¶33).

Those definitions are further supported by the “Background of the Invention” section in the ‘043 patent, which states that “[b]oth ‘contact’ and ‘contactless’ devices are known per se.” (Ex. B, ‘043 patent, Col. 1, ll. 11-12). The section provides further detail about the contact and contactless modes of operation in light of the prior art Kreft patent: “U.S. Pat. No. 5,206,495 for a Chip Card in the name of H. D. Kreft discloses a chip card allowing both contact and contactless communication in a single smart card.” (Ex. B, ‘043 patent, Col. 1, ll. 17-19).

Where the patentees adopted a prior art definition (Kreft’s definition), the Federal Circuit has held that, without an indication to the contrary, that prior art definition relied on by the applicants also defines the scope of the claim term. *Arthur A. Collins, Inc. v. Northern Telecom Ltd.*, 216 F.3d 1042, 1045 (Fed. Cir. 2000) (“When prior art that sheds light on the meaning of a term is cited by the patentee, it can have particular value as a guide to the proper construction of the term, because it may indicate not only the meaning of the term to persons skilled in the art,

but also that the patentee intended to adopt that meaning.”) Here, the patentees adopted Kreft ‘495’s definition for contact and contactless modes of operation, and the Court should therefore adopt it as well.

Based on the intrinsic evidence, the proper construction for the preamble is “a card has a mode of operation wherein electrical contacts on the card directly and electrically contact electrical contacts of a card reader to effect data communication, and the card has a mode of operation wherein an antenna in the card effects contactless data communication with a remote reader.” (Winters Decl. ¶36).

**B. “a semiconductor device for operating in said contact and contactless modes”**

Claim Language	OTI’s Proposed Construction	T-Mobile’s Proposed Construction
a semiconductor device for operating in said contact and contactless modes	<p>“Contact mode” – a mode of operation in which data is exchanged with the semiconductor device via the contact field using a contact data communications protocol.</p> <p>“Contactless mode” – a mode of operation, responsive to an electromagnetic field across the antenna coil, in which data is exchanged with the semiconductor device via an antenna interface using a contactless data communications protocol.</p>	<p>Ordinary meaning, but under <i>O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.</i>, 521 F.3d 1351 (Fed. Cir. 2008) needs to be construed as: a semiconductor device for operating during the contact mode of operation of the card (as that term is construed in A above) and for operating during the contactless mode of operation of the card (as that term is construed in A above).</p>

Both parties propose that the term “a semiconductor device for operating in said contact and contactless modes” be given its ordinary meaning. However, the parties disagree as to the scope of that ordinary meaning. Federal Circuit precedent, therefore, requires that the Court construe the term. *O2 Micro*, 521 F. 3d at 1361.

The key to the construction of this term is the word “said” as in “said contact and contactless modes.” The term “said” is understood in claim language to refer to the prior recitation of the term for reference. *Baldwin Graphic*, 512 F.3d at 1343 (“In grammatical terms, the instances of ‘said []’ in the claim are anaphoric phrases, referring to the initial antecedent phrase.”) Here, the prior recitation is in the preamble, where the claim language recites that it is the card that has both contact and a contactless mode of operation.

T-Mobile’s construction is also consistent with the teachings of the specification and the understanding of one of ordinary skill in the art:

- “It is an object of the invention to provide a data transaction card having contact and contactless modes of operation. . . .” (Ex. B, ‘043 patent, Col. 2, ll. 25-27) (emphasis added).
- “In accordance with a broad aspect of the invention there is provided a data transaction card having contact and contactless modes of operation.” (Ex. B, ‘043 patent, Col. 2, ll. 34-36) (emphasis added).
- “Yet a further consideration associated with the increasing use of smart cards is the need to customize each smart card for the particular application for which it is destined. Obviously, the provision of both contact and contactless modes of data transfer increases the card's versatility. . . .” (Ex. B, ‘043 patent, Col. 2, ll. 12-18) (emphasis added).
- “It is thus apparent that the data transaction card 10 is extremely versatile. . . . This versatility derives, in part, from the simultaneous provision of contact and contactless modes of data transfer. . . .” (Ex. B, ‘043 patent, Col. 12, ll. 49-56) (emphasis added).

(Winters Decl. ¶38).

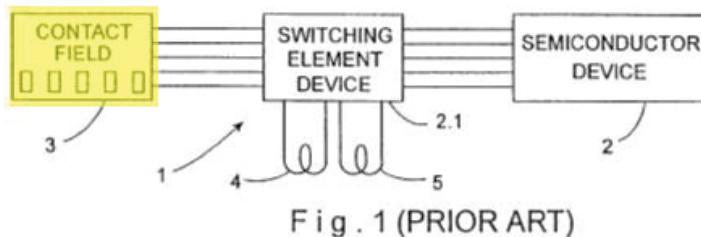
Accordingly, “said contact and contactless modes” refers to the contact and contactless modes of operation of the card. That is exactly the construction proffered by T-Mobile.

(Winters Decl. ¶39).

C. “a contact field”

Claim Language	OTI’s Proposed Construction	T-Mobile’s Proposed Construction
a contact field	<p>The term “contact field” has its plain and ordinary meaning and requires no interpretation.</p> <p><i>In the alternative</i>, if interpretation is required, it means a set of galvanic connections with a semiconductor device.</p>	a plurality of contacts on which respective card reader contacts can rest.

The term “contact field” as used by the ‘043 patent comes from the Kreft ‘495 patent<sup>3</sup>, which used the term to describe the exposed contacts that interact with a card reader’s contacts, and this concept of exposed contacts has been customarily understood in the art for more than 30 years. (Winters Decl. ¶¶40, 41). As referred to in the ‘043 patent, the Kreft ‘495 patent depicts the contact field in the conventional manner as shown below:



(Ex. B, ‘043 patent, Fig. 1).

The ‘043 patent specification also defines the term “contact field” in the conventional manner:

In the case where ‘contact’ data transmission is required, there is provided a so-called ‘contact field’ having a plurality of contacts. . . . Data transmission with an external reader is then effected by

<sup>3</sup> Although the term “contact field” is not commonly used in the art, it is used by others, such as U.S. Pat. No. 4,792,843 (Ex. O, claim 2) (“. . . several contact pads having contact surfaces from [sic, form] one contact field. . . .”), to describe a group of exposed contacts. (Winters Decl. ¶41).

inserting the card into a suitable reader having spring-loaded contacts which bear on respective contacts in the contact field of the chip card.

(Ex. B, '043 patent, Col. 1, ll. 37-44); (Winters Decl. ¶43). That is the construction proffered by T-Mobile: “a plurality of contacts on which respective card reader contacts can rest.”

The remainder of the '043 patent specification uses the term consistently with Figure 2, which “shows functionally the data transaction card according to the invention.” (Ex. B, '043 patent, Col. 3, ll. 19-20) (emphasis added). In that figure, a contact field (element 11) includes multiple contacts (elements 12):

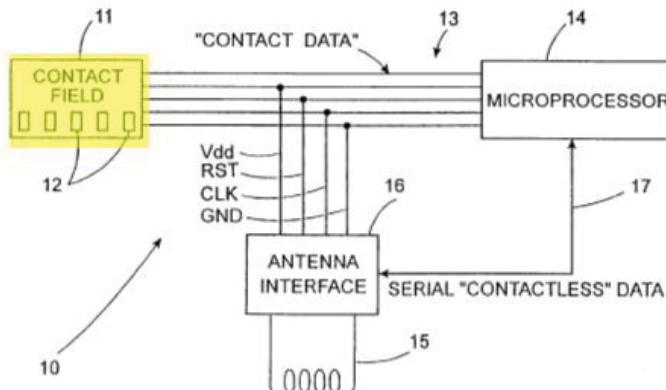


Fig. 2

(Ex. B, '043 patent, Fig. 2). The specification also teaches that Figure 2 includes “a contact field 11 having a plurality of contacts each of which is connected by a separate line 13 to a microprocessor 14.” (Ex. B, '043 patent, Col. 3, ll. 56-58).

Within that contact field are the individual contacts: “Typically, six or eight contacts are provided of which five are typically active as standard in the contact field 11 and each of these is connected by a separate line 13 to the microprocessor 14.” (Ex. B, '043 patent, Col. 3, ll. 62-65) (emphasis added). The reference to “as standard” is a reference to ISO 7816, which defines the size and position of the contact field on the outside of a smart card, and is expressly referred to in

the ‘043 specification. (Ex. B, ‘043 patent, Col. 8, ll. 40-42) (“In contact mode, data transmission between the contact C7 in the contact field 11 and the microprocessor 14 is effected using a data communications protocol conforming to ISO 7816.”); (Winters Decl. ¶44). The Federal Circuit guides that “[w]hen prior art that sheds light on the meaning of a term is cited by the patentee it can have particular value as a guide to the proper construction of the term, because it may indicate. . . that the patentee intended to adopt that meaning.” *Collins*, 216 F.3d at 1045.

Therefore, the term “a contact field” means “a plurality of contacts on which respective card reader contacts can rest.” (Winters Decl. ¶45).

**D. “allowing data transmission between the contacts and the semiconductor device in accordance with said contact data communications protocol only during said contact mode”**

Claim Language	OTI’s Proposed Construction	T-Mobile’s Proposed Construction
allowing data transmission between the contacts and the semiconductor device in accordance with said contact data communications protocol only during said contact mode	<p>allowing data transmission between the contacts and the semiconductor device via a contact-data input/output port only for contact mode, in which data is exchanged in accordance with a contact data communications protocol (and not for data exchanged in contactless mode).</p> <p>The contact data communications protocol is different from the contactless data communications protocol.</p>	data transmission is permitted between the contacts and the semiconductor device in accordance with the contact data communications protocol during the contact mode of operation of the card, and data transmission is not permitted between the contacts and the semiconductor device during the contactless mode of operation of the card.

This limitation relates to the way in which data is or is not transmitted from the contact field 11 to the semiconductor device (microprocessor 14) during the contact and contactless modes of operation of the card. The relevant circuitry from the ‘043 patent is shown below:

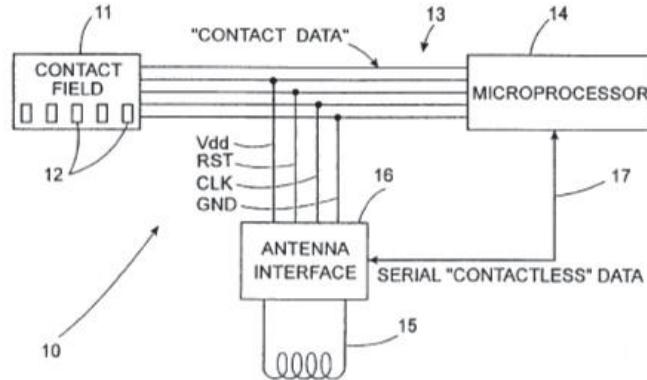


Fig. 2

(Ex. B, '043 patent, Fig. 2).

T-Mobile's construction of this limitation is based on the arguments made by applicants during prosecution to obtain allowance of claim 1 over the prior art. In addition to amending claim 1, the applicants explained how that language allowed the purported invention to function without the "switching element" required by the prior art. (Ex. N, Amendment at 2) ("the invention as claimed resides. . . in the fact that in the invention, no switching element is required for selecting whether contact or contactless modes of operation are required.") (emphasis in original).

In response to a prior art rejection by the U.S.P.T.O. Examiner, applicants amended claim 1 to include the following underlined language: "a contact field including contacts fixedly connected to the semiconductor device during both said contact and contactless modes, and allowing data transmission between the contacts and the semiconductor device in accordance with said contact data communications protocol only during said contact mode." (Ex. N, Amendment at 1).

In explaining the meaning of that language, applicants argued that the contacts are (or the contact field itself is) disabled during contactless operation of the card, which allegedly distinguished the claim over the cited prior art Kreft patents:

- “the presence of an electromagnetic field on the antenna coil automatically enables contactless operation of the smart card and, by the same token, disables the contact field.” (Ex. N, Amendment at 3) (emphasis added).
- “Herein claim 1 was amended to emphasize that the contacts are fixedly connected to the semiconductor device during both modes, contact or contactless, of data transmission. However, the contacts perform on a selective basis, that is, only in the contact mode.” (Ex. N, Amendment at 2) (emphasis added).
- “in the invention, no switching element is required for selecting whether contact or contactless modes of operation are required. This distinction, which is fundamental to an understanding of the invention, is expressed by the statement that the contact field includes contacts ***fixedly*** connected to the semiconductor device during both modes, but transmit data only in contact mode.” (Ex. N, Amendment 2-3) (emphasis in original).

The amendment to claim 1 and arguments made during prosecution limit the claim to preventing data transmission between the contact field and the semiconductor device during the contactless mode of operation of the card. *Computer Docking Station Corp. v. Dell, Inc.*, 519 F.3d 1366, 1374 (Fed. Cir. 2008) (patentee narrows claim scope by “clearly characterizing the invention in a way to try to overcome rejections based on prior art”); (Winters Decl. ¶48).

Therefore “allowing data transmission between the contacts and the semiconductor device in accordance with said contact data communications protocol only during said contact mode” means that “data transmission is permitted between the contacts and the semiconductor device in accordance with the contact data communications protocol during the contact mode of operation of the card, and data transmission is not permitted between the contacts and the semiconductor device during the contactless mode of operation of the card.” (Winters Decl. ¶49).

**E. “at least some”**

<b>Claim Language</b>	<b>OTI’s Proposed Construction</b>	<b>T-Mobile’s Proposed Construction</b>
at least some	more than one	an indeterminate number that includes all
(“an antenna interface coupled... to at least some of the contacts in the contact field”)	(“an antenna interface coupled... to <i>more than one</i> of the contacts in the contact field”)	(“an antenna interface coupled... to <i>an indeterminate number that includes all</i> of the contacts in the contact field”)

The ‘043 patent specification does not provide its own unique constriction of the term.

T-Mobile’s construction of the term is consistent with the ordinary and customary meaning. The Merriam-Webster dictionary (on-line at [www.merriam-webster.com](http://www.merriam-webster.com)) provides the following definition for “some”:

- 2 a: being one, a part, or an unspecified number of something (as a class or group) named or implied.
- b: being of an unspecified amount or number.
- 4: being at least one – used to indicate that a logical proposition is asserted only of a subclass or certain members of the class denoted by the term which it modifies.

*See* Merriam-Webster on-line dictionary (Ex. P) (emphasis added). Furthermore, “at least” means “at the minimum.” *See* Collins on-line dictionary ([www.collinsdictionary.com](http://www.collinsdictionary.com), Ex. Q). Relying on those definitions together, the claim term “at least some” does not require any specific number, but means “an indeterminate number that includes all.”<sup>4</sup> (Winters Decl. ¶52).

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<sup>4</sup> T-Mobile’s proposed definition is consistent with the District of Pennsylvania’s construction of the term “at least a portion of . . .” to mean “anywhere from part of . . . to an entire . . .” *Respirronics, Inc. v. Invacare Corp.*, No. 04-cv-336, at 31 (W.D. Pa. Aug. 31, 2006) (copy attached hereto).

#### IV. CONCLUSION

For the reasons set forth above, T-Mobile respectfully requests that the Court adopt its claim constructions of the disputed terms. T-Mobile's constructions are consistent with the intrinsic and extrinsic evidence.

Dated: December 21, 2012

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**CERTIFICATE OF SERVICE**

Pursuant to the Federal Rules of Civil Procedure, I hereby certify that on the 21<sup>st</sup> day of December 2012, I filed a true and correct copy of the foregoing via the Court's ECF Notification System, causing a copy to be served upon the following counsel of record:

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